

Abstract

An optical imaging system for a microlithography projection exposure system is used for imaging an object field arranged in an object plane of the imaging system into an image field arranged in an image plane of the imaging system. A projection objective or a relay objective to be used in the illumination system can be involved, in particular. The imaging system has a plurality of lenses that are arranged between the object plane and the image plane and in each case have a first lens surface and a second lens surface. At least one of the lenses is a double aspheric lens where the first lens surface and the second lens surface is an aspheric surface. Lenses of good quality that have the action of an asphere with very strong deformation can be produced in the case of double aspheric lenses with an acceptable outlay as regards the surface processing and testing of the lens surfaces.